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DT09 Rec'd PCT/PTO 08 SEP 2004

## **APPENDIX C**

### **Article 34 Amendment** **Filed April 28, 2004**

ATTORNEY DOCKET NUMBER: 2003946-0018 (ANDI/PCT)

**IN THE EUROPEAN PATENT OFFICE**  
**AS INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY**

Applicant: Eisai Co. Ltd.  
Intl. Appln. No.: PCT/US03/07377  
Intl. Filing Date: 7 March 2003  
Priority: U.S.S.N. 60/362,883 filed 8 March 2002  
U.S.S.N. 60/380,711 filed 14 May 2002

For: MACROCYCLIC COMPOUNDS USEFUL AS  
PHARMACEUTICALS

**VIA FACSIMILE**  
**011-49-89-2399-4465**  
CONFIRMATION BY  
INTERNATIONAL COURIER

EUROPEAN PATENT OFFICE  
D-80298 MUNICH  
GERMANY  
Authorized Officer: Kirsch, C.

Dear Sir/Madam:

**REQUEST FOR AMENDMENT UNDER PCT ARTICLE 34**

1. Applicant respectfully requests authorization from the International Preliminary Examining Authority for amendment under PCT Article 34 and respectfully submits that the replacement sheets, as submitted herewith, reflect claim amendments which do not introduce new matter. Applicant submits herewith replacement sheets number 378-382, 382a, 384-393, 393a, and 395-421, to replace sheets number 378-382, 384-393, and 395-421, originally filed for this application.

2. In respect of each claim appearing in the international application based on replacement sheets 378-382, 382a, 384-393, 393a, and 395-421 submitted herewith, and in accordance with PCT Section 205(b), the following claim(s) is/are:

(i) Unchanged: Claims 4-21, 38-46, 48-65, 82, 83, 85-88, 90-107, 120-122, 125 and 126 are unchanged;

(ii) Replaced: Claims 1-3, 22-37, 47, 66-81, 84, 89, 108-119, 123 and 124 are replaced with new claims 1-3, 22-37, 47, 66-81, 84, 89, 108-119, 123 and 124, respectively;

A marked-up copy of Claim Replacements highlighting the changes is provided herewith as attached Appendix A. Deletions are represented in strikethrough, and additions are represented in underlining. Please note that the enclosed Appendix A indicates

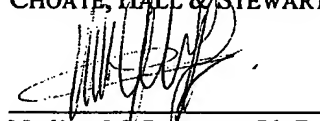
amendments made *in addition to* those made in Applicant's 15 December 2003 Response. Accordingly, replacement sheets number 378-382, 382a, 384-393, 393a, and 395-421 take into account amendments to the claims filed on 15 December 2003.

Applicant respectfully submits that no new matter is presented with these amendments. Specifically, claim language has been amended to replace "lower" with "C<sub>1-6</sub>". Support for this amendment can be found for example in paragraph [0090] on page 22 of the specification as originally filed.

In addition, claim language has been amended to replace "pharmaceutically acceptable derivative" with "pharmaceutically acceptable salt, ester, or salt of ester". Support for this amendment can be found for example in paragraph [0087] on page 20 of the specification as originally filed.

Applicant hereby requests that the ISA complete its examination upon this submission. Favorable action is respectfully requested.

Respectfully submitted,  
CHOATE, HALL & STEWART

  
Nadège M. Lagneau, Ph.D.  
Agent for Applicant

Dated 28 April 2004

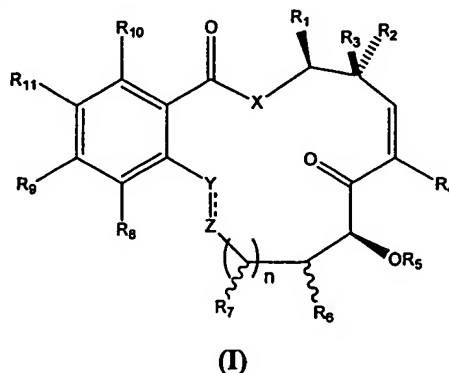
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## - APPENDIX A -

## VERSION WITH MARKINGS TO SHOW CHANGES MADE

## CLAIM REPLACEMENTS

1. A compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or

$R_1$  and  $R_2$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms; or

$R_1$  and  $R_3$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen, an oxygen protecting group or a prodrug;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or an aliphatic moiety optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ , -  $X_1(CH_2)_pX_2-R_{14}$ , or is ~~lower alkyl~~ C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or - $X_1(CH_2)_pX_2-R_{14}$ ;

wherein R<sub>12</sub> and R<sub>13</sub> are, independently for each occurrence, hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or a protecting group, or R<sub>12</sub> and R<sub>13</sub>, taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of R<sub>12</sub> and R<sub>13</sub> are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein X<sub>1</sub> and X<sub>2</sub> are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein X<sub>2</sub>-R<sub>14</sub> together are N<sub>3</sub> or are a saturated or unsaturated heterocyclic moiety,

p is 2-10, and

R<sub>14</sub> is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is -(C=O)NHR<sub>15</sub>-(C=O)OR<sub>15</sub>, or -(C=O)R<sub>15</sub>, wherein each occurrence of R<sub>15</sub> is independently hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or R<sub>14</sub> is -SO<sub>2</sub>(R<sub>16</sub>), wherein R<sub>16</sub> is an aliphatic moiety, wherein one or more of R<sub>14</sub>, R<sub>15</sub>, or R<sub>16</sub> are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

R<sub>8</sub> and R<sub>9</sub> may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

R<sub>10</sub> is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

R<sub>11</sub> is hydrogen, hydroxyl or protected hydroxyl;


X is absent or is O, NH, N-alkyl, CH<sub>2</sub> or S;

Y is CHR<sub>17</sub>, O, C=O, CR<sub>17</sub> or NR<sub>17</sub>; and Z is CHR<sub>18</sub>, O, C=O, CR<sub>18</sub> or NR<sub>18</sub>, wherein each occurrence of R<sub>17</sub> and R<sub>18</sub> is independently hydrogen or aliphatic, or R<sub>17</sub> and R<sub>18</sub> taken together is -O-, -CH<sub>2</sub>- or -NR<sub>19</sub>-, wherein R<sub>19</sub> is hydrogen or lower-alkyl C<sub>1-6</sub>alkyl, and Y and Z may be connected by a single or double bond; and

~~pharmaceutically acceptable derivatives thereof;~~

with the proviso that when n is 1; X is O; R<sub>1</sub> is methyl; R<sub>2</sub>, R<sub>3</sub>, R<sub>7</sub> and R<sub>11</sub> are each hydrogen; R<sub>5</sub> is hydrogen, C<sub>1-4</sub>alkyl or -C(=O)C<sub>1-4</sub>alkyl; R<sub>6</sub> is hydrogen, OH, C<sub>1-4</sub>alkoxy or -

OC(=O)C<sub>1-4</sub>alkyl; and R<sub>9</sub> is OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; then one or more if the following groups do not occur simultaneously as defined:

- (i) R<sub>4</sub> is hydrogen; R<sub>10</sub> and R<sub>8</sub> are independently OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; and Y-Z is -CH<sub>2</sub>CH<sub>2</sub>- or -CH=CH-;
- (ii) R<sub>4</sub> and R<sub>8</sub> are each hydrogen; R<sub>10</sub> is OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; and Y-Z is -CHR<sup>Y</sup>CHR<sup>Z</sup>-, -CH=CH- or ; wherein R<sup>Y</sup> and R<sup>Z</sup> are independently hydrogen, C<sub>1-4</sub>alkyl or C<sub>1-4</sub>alkanoyl; and
- (iii) R<sub>4</sub> and R<sub>10</sub> are each hydrogen, OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; R<sub>8</sub> is hydrogen, OH, halogen, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; and Y-Z is -CH<sub>2</sub>CH<sub>2</sub>-, -CH=CH- or -C(=O)CH<sub>2</sub>-.

2. The compound of claim 1, where the following groups do not occur simultaneously as defined:

X is oxygen,  
R<sub>1</sub> is methyl,  
R<sub>2</sub> and R<sub>3</sub> are each hydrogen,  
R<sub>4</sub> is hydrogen,  
R<sub>5</sub> is hydrogen, ~~lower-alkyl~~ C<sub>1-6</sub>alkyl or ~~lower-alkanoyl~~ C<sub>1-6</sub>alkanoyl,  
R<sub>6</sub> is OR', where R' is hydrogen, ~~lower-alkyl~~ C<sub>1-6</sub>alkyl or ~~lower-alkanoyl~~ C<sub>1-6</sub>alkanoyl with S-configuration,  
R<sub>7</sub> is hydrogen,  
Y and Z together represent -CHR<sub>17</sub>-CHR<sub>18</sub>- or -CR<sub>17</sub>=CR<sub>18</sub>-, wherein R<sub>17</sub> and R<sub>18</sub> are independently hydrogen, or when Y and Z are -CHR<sub>17</sub>-CHR<sub>18</sub>, R<sub>17</sub> and R<sub>18</sub> taken together are -O-;  
R<sub>8</sub> is hydrogen or OR', where R' is hydrogen, ~~lower-alkyl~~ C<sub>1-6</sub>alkyl or ~~lower-alkanoyl~~ C<sub>1-6</sub>alkanoyl,  
R<sub>9</sub> is OR', where R' is hydrogen, ~~lower-alkyl~~ C<sub>1-6</sub>alkyl or ~~lower-alkanoyl~~ C<sub>1-6</sub>alkanoyl,  
R<sub>10</sub> is OR'', where R'' is hydrogen, ~~lower-alkyl~~ C<sub>1-6</sub>alkyl or ~~lower-alkanoyl~~ C<sub>1-6</sub>alkanoyl; and  
R<sup>11</sup> is hydrogen.

3. The compound of claim 1, wherein:

$R_1$  is hydrogen, straight or branched ~~lower-alkyl~~ C<sub>1-6</sub>alkyl, straight or branched ~~lower heteroalkyl~~ C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched ~~lower-alkyl~~ C<sub>1-6</sub>alkyl, straight or branched ~~lower heteroalkyl~~ C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

$R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

$R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen or a protecting group;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or ~~lower-alkyl~~ C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ , - $X_1(CH_2)_pX_2-R_{14}$ , or is ~~lower-alkyl~~ C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or - $X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, ~~lower alkyl~~ C<sub>1-6</sub>alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2$ - $R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is - (C=O)NHR<sub>15</sub> - (C=O)OR<sub>15</sub>, or - (C=O)R<sub>15</sub>, wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is -SO<sub>2</sub>(R<sub>16</sub>), wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

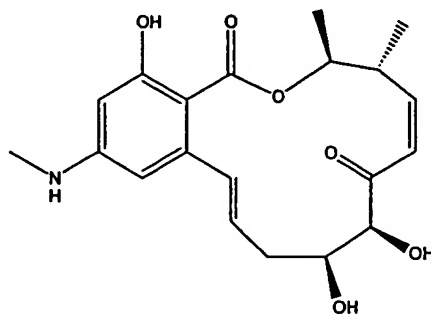
$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl, CH<sub>2</sub> or S;

$Y$  is CHR<sub>17</sub>, O, C=O, CR<sub>17</sub> or NR<sub>17</sub>; and  $Z$  is CHR<sub>18</sub>, O, C=O, CR<sub>18</sub> or NR<sub>18</sub>, wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or lower alkyl C<sub>1-6</sub>alkyl, or  $R_{17}$  and  $R_{18}$  taken together is -O-, -CH<sub>2</sub>- or -NR<sub>19</sub>-, wherein  $R_{19}$  is hydrogen or lower alkyl C<sub>1-6</sub>alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; and

~~pharmaceutically acceptable derivatives thereof.~~

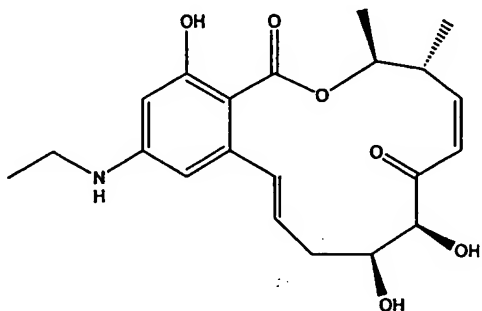
22. A compound having the structure:





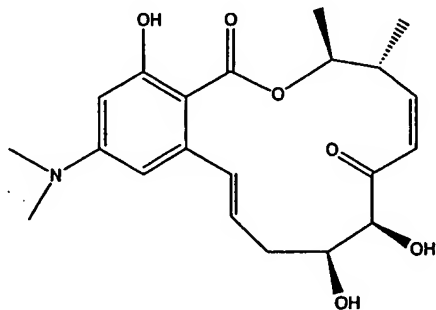
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

23. A compound having the structure:



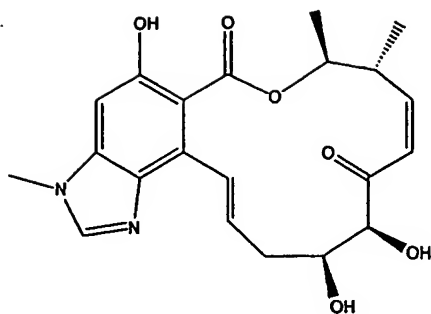
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

24. A compound having the structure:



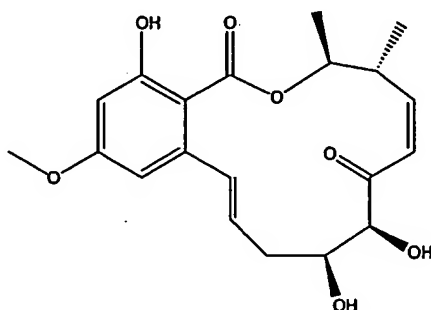
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

25. A compound having the structure:



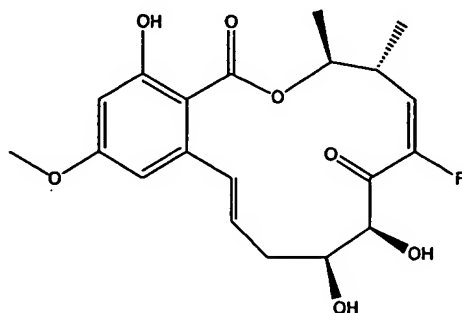
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

26. A compound having the structure:



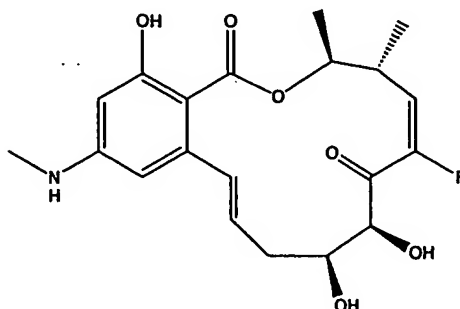
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

27. A compound having the structure:



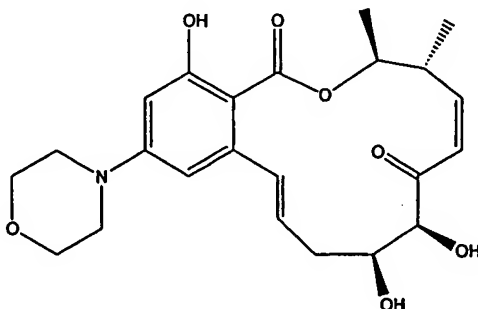
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

28. A compound having the structure:



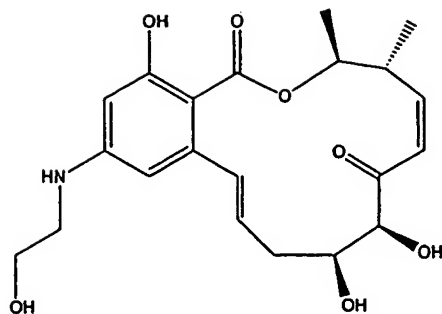
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

29. A compound having the structure:



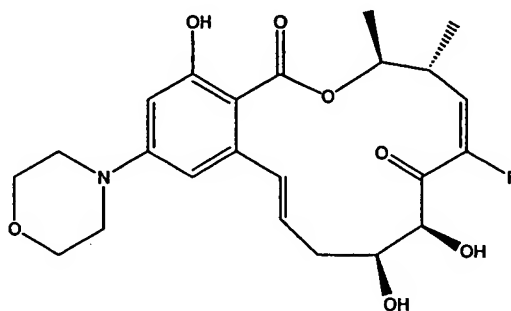
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

30. A compound having the structure:



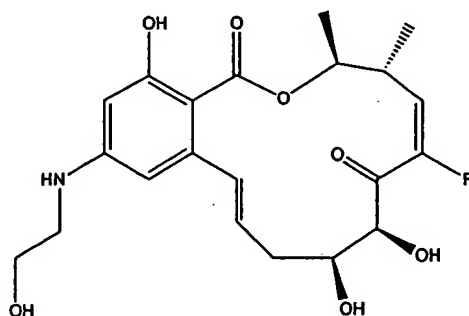
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

31. A compound having the structure:



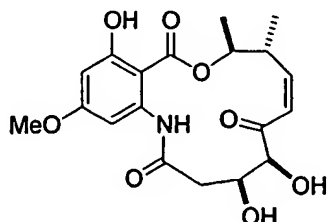
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

32. A compound having the structure:



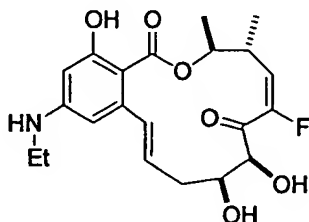
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

33. A compound having the structure:



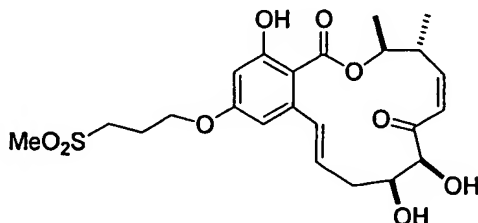
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

34. A compound having the structure:



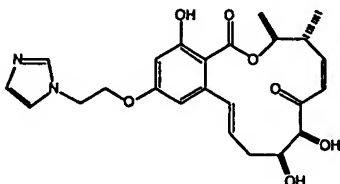
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

35. A compound having the structure;



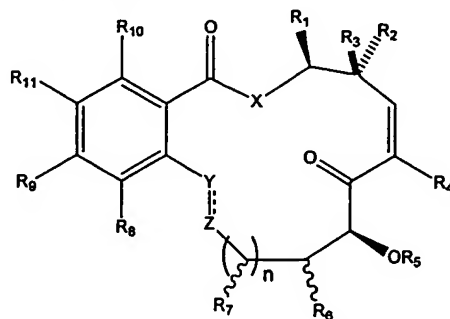
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

36. A compound having the structure:



and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

37. A pharmaceutical composition comprising:  
a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or

$R_1$  and  $R_2$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms; or

R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms;

R<sub>4</sub> is hydrogen or halogen;

R<sub>5</sub> is hydrogen, an oxygen protecting group or a prodrug;

R<sub>6</sub> is hydrogen, hydroxyl, or protected hydroxyl;

n is 0-2;

R<sub>7</sub>, for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

R<sub>8</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or an aliphatic moiety optionally substituted with hydroxyl, protected hydroxyl, SR<sub>12</sub>, or NR<sub>12</sub>R<sub>13</sub>;

R<sub>9</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, OR<sub>12</sub>, SR<sub>12</sub>, NR<sub>12</sub>R<sub>13</sub>, -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>, or is ~~lower alkyl~~ C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>;

wherein R<sub>12</sub> and R<sub>13</sub> are, independently for each occurrence, hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or a protecting group, or R<sub>12</sub> and R<sub>13</sub>, taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of R<sub>12</sub> and R<sub>13</sub> are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein X<sub>1</sub> and X<sub>2</sub> are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein X<sub>2</sub>-R<sub>14</sub> together are N<sub>3</sub> or are a saturated or unsaturated heterocyclic moiety,

p is 2-10, and

R<sub>14</sub> is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is -(C=O)NHR<sub>15</sub> -(C=O)OR<sub>15</sub>, or -(C=O)R<sub>15</sub>, wherein each occurrence of R<sub>15</sub> is independently hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or R<sub>14</sub> is -SO<sub>2</sub>(R<sub>16</sub>), wherein R<sub>16</sub> is an aliphatic moiety, wherein one or more of R<sub>14</sub>, R<sub>15</sub>, or R<sub>16</sub> are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

R<sub>8</sub> and R<sub>9</sub> may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally

substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

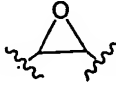
X is absent or is O, NH, N-alkyl,  $CH_2$  or S;

Y is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and Z is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or aliphatic, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or lower alkyl C<sub>1-6</sub>alkyl, and Y and Z may be connected by a single or double bond; ~~pharmaceutically acceptable derivatives thereof;~~ and

a pharmaceutically acceptable carrier;

with the proviso that when n is 1; X is O;  $R_1$  is methyl;  $R_2$ ,  $R_3$ ,  $R_7$  and  $R_{11}$  are each hydrogen;  $R_5$  is hydrogen,  $C_{1-4}$ alkyl or  $-C(=O)C_{1-4}$ alkyl;  $R_6$  is hydrogen, OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and  $R_9$  is OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; then one or more if the following groups do not occur simultaneously as defined:

- (i)  $R_4$  is hydrogen;  $R_{10}$  and  $R_8$  are independently OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and Y-Z is  $-CH_2CH_2-$  or  $-CH=CH-$ ;
- (ii)  $R_4$  and  $R_8$  are each hydrogen;  $R_{10}$  is OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and

Y-Z is  $-CHR^YCHR^Z-$ ,  $-CH=CH-$  or ; wherein  $R^Y$  and  $R^Z$  are independently hydrogen,  $C_{1-4}$ alkyl or  $C_{1-4}$ alkanoyl; and

- (iii)  $R_4$  and  $R_{10}$  are each hydrogen, OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl;  $R_8$  is hydrogen, OH, halogen,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and Y-Z is  $-CH_2CH_2-$ ,  $-CH=CH-$  or  $-C(=O)CH_2-$ .

47. The pharmaceutical composition of claim 37, where:

$R_1$  is hydrogen, straight or branched lower alkyl C<sub>1-6</sub>alkyl, straight or branched lower heteroalkyl C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;



R<sub>2</sub> and R<sub>3</sub> are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched ~~lower alkyl~~ C<sub>1-6</sub>alkyl, straight or branched ~~lower heteroalkyl~~ C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or R<sub>1</sub> and R<sub>2</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

R<sub>4</sub> is hydrogen or halogen;

R<sub>5</sub> is hydrogen or a protecting group;

R<sub>6</sub> is hydrogen, hydroxyl, or protected hydroxyl;

n is 0-2;

R<sub>7</sub>, for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

R<sub>8</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or ~~lower alkyl~~ C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, SR<sub>12</sub>, or NR<sub>12</sub>R<sub>13</sub>;

R<sub>9</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, OR<sub>12</sub>, SR<sub>12</sub>, NR<sub>12</sub>R<sub>13</sub>, -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>, or is ~~lower alkyl~~ C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>;

wherein R<sub>12</sub> and R<sub>13</sub> are, independently for each occurrence, hydrogen, ~~lower alkyl~~ C<sub>1-6</sub>alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or R<sub>12</sub> and R<sub>13</sub>, taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of R<sub>12</sub> and R<sub>13</sub> are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen, wherein X<sub>1</sub> and X<sub>2</sub> are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein X<sub>2</sub>-R<sub>14</sub> together are N<sub>3</sub> or are a saturated or unsaturated heterocyclic moiety,

p is 2-10, and

R<sub>14</sub> is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is -(C=O)NHR<sub>15</sub>-(C=O)OR<sub>15</sub>, or -(C=O)R<sub>15</sub>, wherein each occurrence of R<sub>15</sub> is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or R<sub>14</sub> is -SO<sub>2</sub>(R<sub>16</sub>), wherein R<sub>16</sub> is an alkyl moiety, wherein one or

more of R<sub>14</sub>, R<sub>15</sub>, or R<sub>16</sub> are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

R<sub>8</sub> and R<sub>9</sub> may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

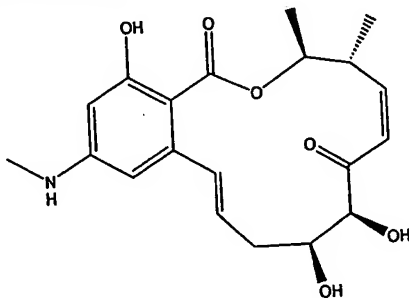
R<sub>10</sub> is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

R<sub>11</sub> is hydrogen, hydroxyl or protected hydroxyl;

X is absent or is O, NH, N-alkyl, CH<sub>2</sub> or S;

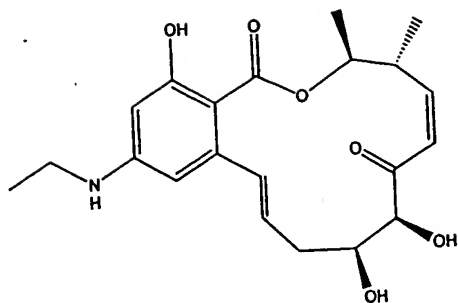
Y is CHR<sub>17</sub>, O, C=O, CR<sub>17</sub> or NR<sub>17</sub>; and Z is CHR<sub>18</sub>, O, C=O, CR<sub>18</sub> or NR<sub>18</sub>, wherein each occurrence of R<sub>17</sub> and R<sub>18</sub> is independently hydrogen or lower alkyl C<sub>1-6</sub>alkyl, or R<sub>17</sub> and R<sub>18</sub> taken together is -O-, -CH<sub>2</sub>- or -NR<sub>19</sub>-, wherein R<sub>19</sub> is hydrogen or lower alkyl C<sub>1-6</sub>alkyl, and Y and Z may be connected by a single or double bond.

66. A pharmaceutical composition comprising:  
a compound having the structure:



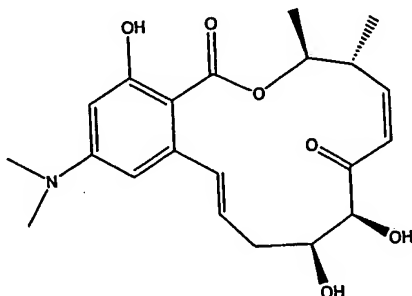
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

67. A pharmaceutical composition comprising:  
a compound having the structure:



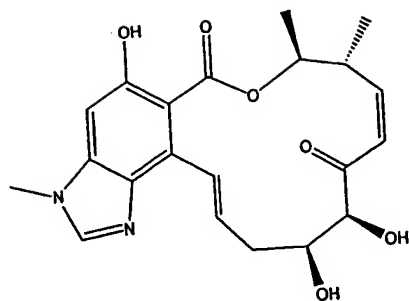
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

68. A pharmaceutical composition comprising:  
a compound having the structure:



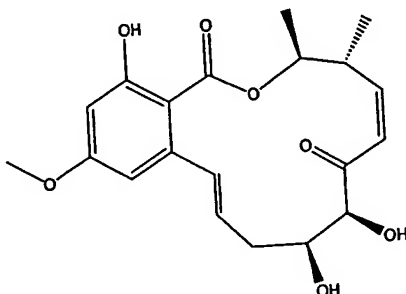
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

69. A pharmaceutical composition comprising:  
a compound having the structure:



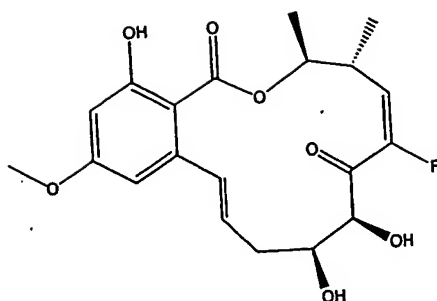
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

70. A pharmaceutical composition comprising:  
a compound having the structure:



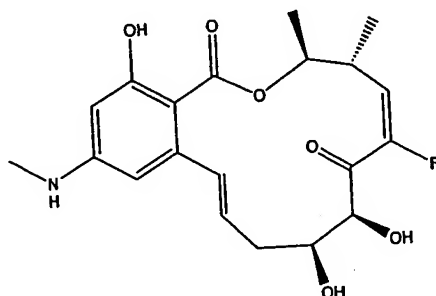
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

71. A pharmaceutical composition comprising:  
a compound having the structure:



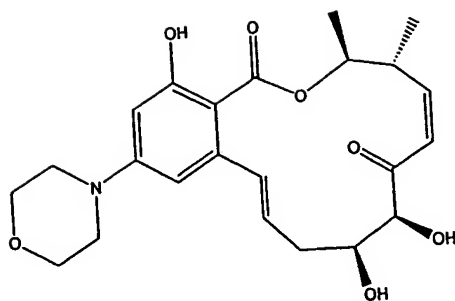
~~and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and~~  
a pharmaceutically acceptable carrier.

72. A pharmaceutical composition comprising:  
a compound having the structure:



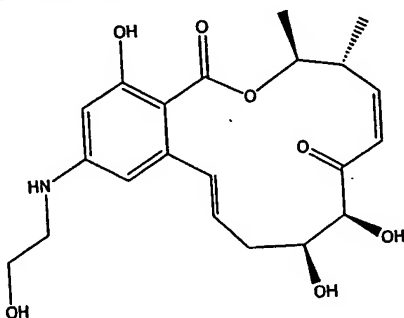
~~and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and~~  
a pharmaceutically acceptable carrier.

73. A pharmaceutical composition comprising:  
a compound having the structure:



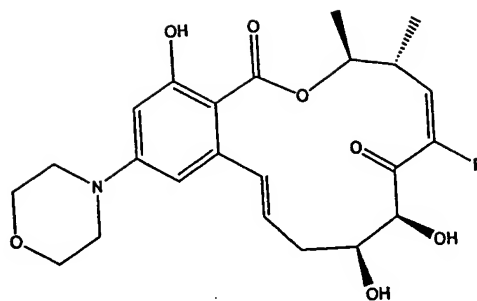
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof; and a pharmaceutically acceptable carrier.

74. A pharmaceutical composition comprising:  
a compound having the structure:



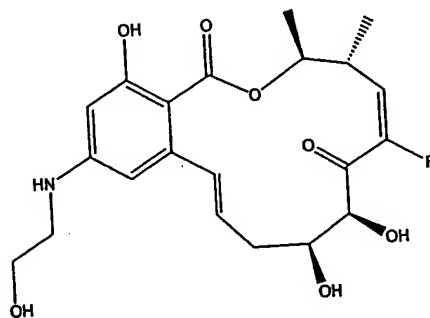
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof; and a pharmaceutically acceptable carrier.

75. A pharmaceutical composition comprising:  
a compound having the structure:



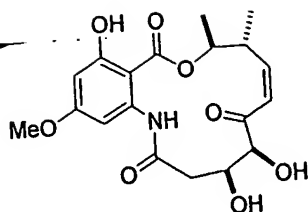
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof; and a pharmaceutically acceptable carrier.

76. A pharmaceutical composition comprising:  
a compound having the structure:



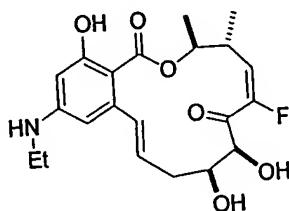
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof; and a pharmaceutically acceptable carrier.

77. A pharmaceutical composition comprising:  
a compound having the structure:



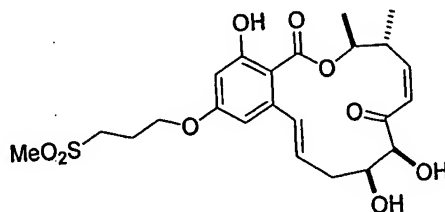
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

78. A pharmaceutical composition comprising:  
a compound having the structure:



and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

79. A pharmaceutical composition comprising:  
a compound having the structure:

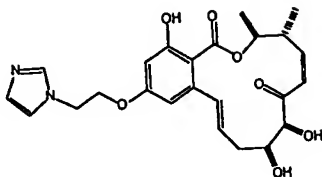


and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and



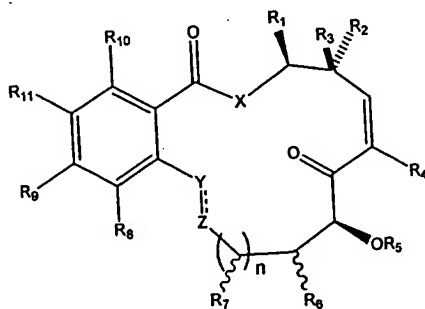
a pharmaceutically acceptable carrier.

80. A pharmaceutical composition comprising:  
a compound having the structure:



and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

81. A topical pharmaceutical composition for preventing or treating UVB-induced photodamage comprising:  
a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;  
wherein R<sub>1</sub> is hydrogen, straight or branched lower alkyl, straight or branched lower heteroalkyl, C<sub>1-6</sub> heteroalkyl, or aryl,  
wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

R<sub>2</sub> and R<sub>3</sub> are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched lower alkyl C<sub>1-6</sub>alkyl, straight or branched lower heteroalkyl C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or R<sub>1</sub> and R<sub>2</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

R<sub>4</sub> is hydrogen or halogen;

R<sub>5</sub> is hydrogen or a protecting group;

R<sub>6</sub> is hydrogen, hydroxyl, or protected hydroxyl;

n is 0-2;

R<sub>7</sub>, for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

R<sub>8</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or lower alkyl C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, SR<sub>12</sub>, or NR<sub>12</sub>R<sub>13</sub>;

R<sub>9</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, OR<sub>12</sub>, SR<sub>12</sub>, NR<sub>12</sub>R<sub>13</sub>, -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>, or is lower alkyl C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>;

wherein R<sub>12</sub> and R<sub>13</sub> are, independently for each occurrence, hydrogen, lower alkyl C<sub>1-6</sub>alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or R<sub>12</sub> and R<sub>13</sub>, taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of R<sub>12</sub> and R<sub>13</sub> are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen, wherein X<sub>1</sub> and X<sub>2</sub> are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein X<sub>2</sub>-R<sub>14</sub> together are N<sub>3</sub> or are a saturated or unsaturated heterocyclic moiety,

p is 2-10, and

R<sub>14</sub> is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is - (C=O)NHR<sub>15</sub> - (C=O)OR<sub>15</sub>, or - (C=O)R<sub>15</sub>, wherein each occurrence of R<sub>15</sub> is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or R<sub>14</sub> is -SO<sub>2</sub>(R<sub>16</sub>), wherein R<sub>16</sub> is an alkyl moiety, wherein one or

more of R<sub>14</sub>, R<sub>15</sub>, or R<sub>16</sub> are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

R<sub>8</sub> and R<sub>9</sub> may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

R<sub>10</sub> is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

R<sub>11</sub> is hydrogen, hydroxyl or protected hydroxyl;

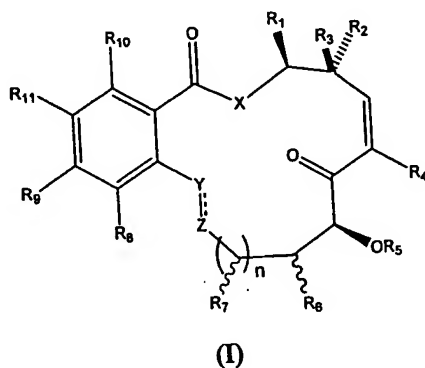
X is absent or is O, NH, N-alkyl, CH<sub>2</sub> or S;

Y is CHR<sub>17</sub>, O, C=O, CR<sub>17</sub> or NR<sub>17</sub>; and Z is CHR<sub>18</sub>, O, C=O, CR<sub>18</sub> or NR<sub>18</sub>, wherein each occurrence of R<sub>17</sub> and R<sub>18</sub> is independently hydrogen or lower alkyl C<sub>1-6</sub>alkyl, or R<sub>17</sub> and R<sub>18</sub> taken together is -O-, -CH<sub>2</sub>- or -NR<sub>19</sub>-, wherein R<sub>19</sub> is hydrogen or lower alkyl C<sub>1-6</sub>alkyl, and Y and Z may be connected by a single or double bond; ~~pharmaceutically acceptable derivatives thereof; and~~

a pharmaceutically acceptable carrier;

wherein the compound is present in an amount effective to prevent or treat UVB-induced photodamage.

84. A method for treating an inflammatory and/or autoimmune disorder or a disorder resulting from increased angiogenesis and/or cell proliferation comprising:  
administering to a subject in need thereof a therapeutically effective amount of a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or

$R_1$  and  $R_2$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms; or

$R_1$  and  $R_3$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen, an oxygen protecting group or a prodrug;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or an aliphatic moiety optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ , - $X_1(CH_2)_pX_2-R_{14}$ , or is lower alkyl C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or - $X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is - $(C=O)NHR_{15}$  - $(C=O)OR_{15}$ , or - $(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or

heteroaryl; or  $R_{14}$  is  $-\text{SO}_2(R_{16})$ , wherein  $R_{16}$  is an aliphatic moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

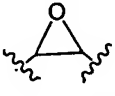
$X$  is absent or is O, NH, N-alkyl,  $\text{CH}_2$  or S;

$Y$  is  $\text{CHR}_{17}$ , O,  $\text{C}=\text{O}$ ,  $\text{CR}_{17}$  or  $\text{NR}_{17}$ ; and  $Z$  is  $\text{CHR}_{18}$ , O,  $\text{C}=\text{O}$ ,  $\text{CR}_{18}$  or  $\text{NR}_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or aliphatic, or  $R_{17}$  and  $R_{18}$  taken together is  $-\text{O}-$ ,  $-\text{CH}_2-$  or  $-\text{NR}_{19}-$ , wherein  $R_{19}$  is hydrogen or lower alkyl  $\text{C}_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; ~~pharmaceutically acceptable derivatives thereof; and~~

a pharmaceutically acceptable carrier or diluent;

with the proviso that when  $n$  is 1;  $X$  is O;  $R_1$  is methyl;  $R_2$ ,  $R_3$ ,  $R_7$  and  $R_{11}$  are each hydrogen;  $R_5$  is hydrogen,  $\text{C}_{1-4}$ alkyl or  $-\text{C}(=\text{O})\text{C}_{1-4}$ alkyl;  $R_6$  is hydrogen, OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and  $R_9$  is OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; then one or more if the following groups do not occur simultaneously as defined:

- (i)  $R_4$  is hydrogen;  $R_{10}$  and  $R_8$  are independently OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and  $Y-Z$  is  $-\text{CH}_2\text{CH}_2-$  or  $-\text{CH}=\text{CH}-$ ; and
- (ii)  $R_4$  and  $R_8$  are each hydrogen;  $R_{10}$  is OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and

$Y-Z$  is  $-\text{CHR}^Y\text{CHR}^Z-$ ,  $-\text{CH}=\text{CH}-$  or ; wherein  $R^Y$  and  $R^Z$  are independently hydrogen,  $\text{C}_{1-4}$ alkyl or  $\text{C}_{1-4}$ alkanoyl; and

- (iii)  $R_4$  and  $R_{10}$  are each hydrogen, OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl;  $R_8$  is hydrogen, OH, halogen,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and  $Y-Z$  is  $-\text{CH}_2\text{CH}_2-$ ,  $-\text{CH}=\text{CH}-$  or  $-\text{C}(=\text{O})\text{CH}_2-$ ; whereby the compound induces mRNA degradation and the method is for treating a disorder resulting from cell proliferation.

89. The method of claim 84, wherein:

$R_1$  is hydrogen, straight or branched ~~lower alkyl~~  $C_{1-6}$ alkyl, straight or branched ~~lower heteroalkyl~~  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched ~~lower alkyl~~  $C_{1-6}$ alkyl, straight or branched ~~lower heteroalkyl~~  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

$R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

$R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen or a protecting group;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or ~~lower alkyl~~  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ , - $X_1(CH_2)_pX_2-R_{14}$ , or is ~~lower alkyl~~  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or - $X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, ~~lower alkyl~~  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2$ - $R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is - (C=O)NHR<sub>15</sub> - (C=O)OR<sub>15</sub>, or - (C=O)R<sub>15</sub>, wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is -SO<sub>2</sub>(R<sub>16</sub>), wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

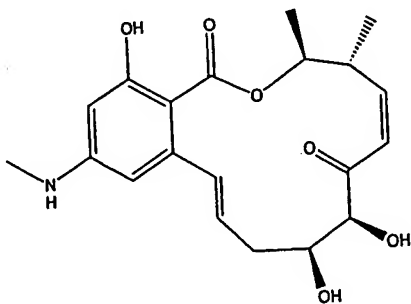
$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl, CH<sub>2</sub> or S;

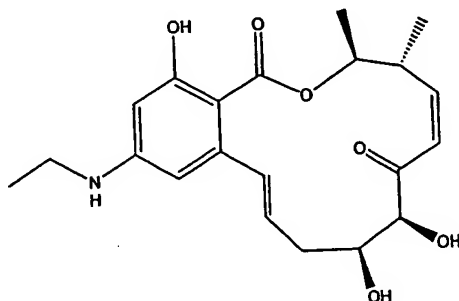
$Y$  is CHR<sub>17</sub>, O, C=O, CR<sub>17</sub> or NR<sub>17</sub>; and  $Z$  is CHR<sub>18</sub>, O, C=O, CR<sub>18</sub> or NR<sub>18</sub>, wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or lower-alkyl C<sub>1-6</sub>alkyl, or  $R_{17}$  and  $R_{18}$  taken together is -O-, -CH<sub>2</sub>- or -NR<sub>19</sub>-, wherein  $R_{19}$  is hydrogen or lower-alkyl C<sub>1-6</sub>alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond.

108. The method of claim 84, comprising administering a compound having the structure:



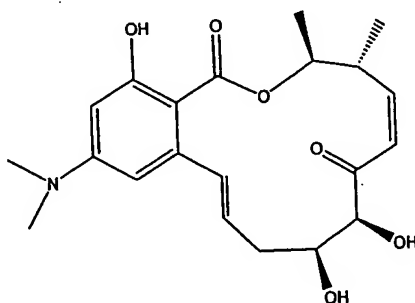
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

109. The method of claim 84, comprising administering a compound having the structure:



and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

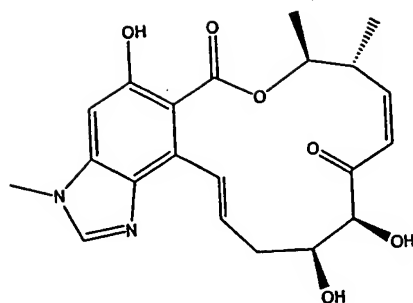
110. The method of claim 84, comprising administering a compound having the structure:



and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

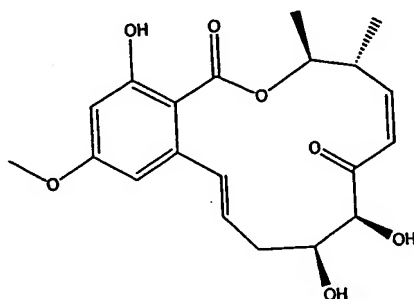
111. The method of claim 84, comprising administering a compound having the structure:





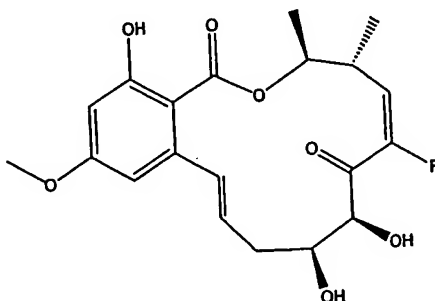
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

112. The method of claim 84, comprising administering a compound having the structure:



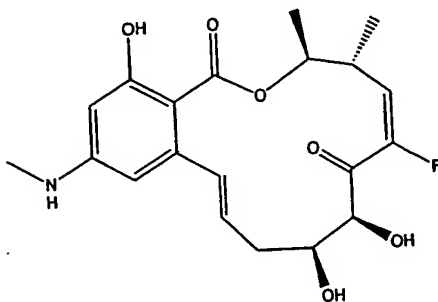
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

113. The method of claim 84, comprising administering a compound having the structure:



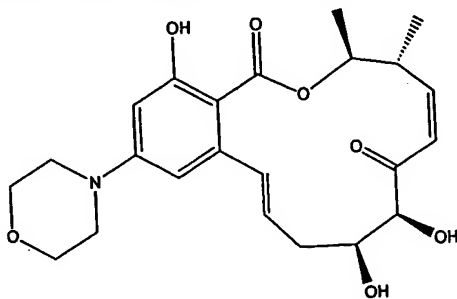
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

114. The method of claim 84, comprising administering a compound having the structure:



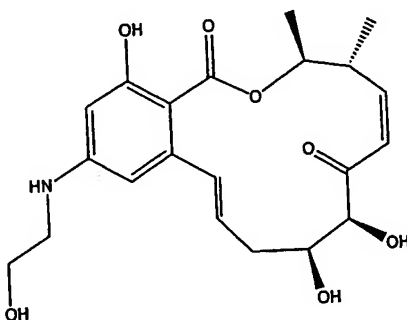
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

115. The method of claim 84, comprising administering a compound having the structure:



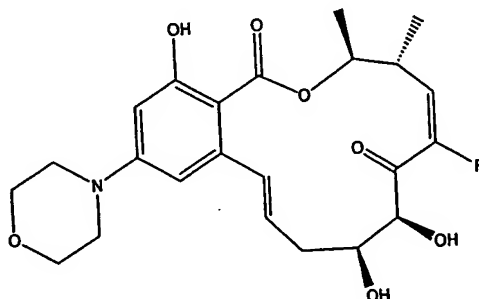
~~and pharmaceutically acceptable derivatives thereof~~ or pharmaceutically acceptable salt, ester, or salt of ester thereof.

116. The method of claim 84, comprising administering a compound having the structure:



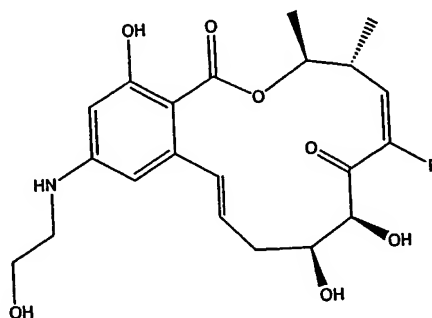
and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

117. The method of claim 84, comprising administering a compound having the structure:



and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

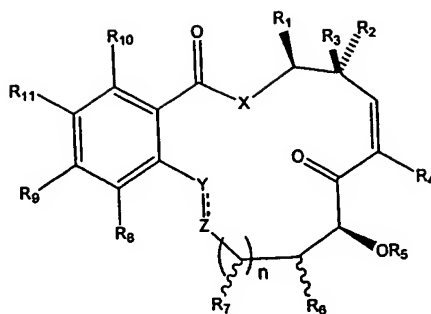
118. The method of claim 84, comprising administering a compound having the structure:



and pharmaceutically acceptable derivatives thereof or pharmaceutically acceptable salt, ester, or salt of ester thereof.

119. A method for providing protection against UVB-induced photodamage to a subject, said method comprising:

Administering to the subject in need thereof a composition comprising a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein R<sub>1</sub> is hydrogen, straight or branched lower-alkyl, straight or branched lower-heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted

with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

R<sub>2</sub> and R<sub>3</sub> are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched lower-alkyl, straight or branched lower-heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted

with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

R<sub>1</sub> and R<sub>2</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

R<sub>4</sub> is hydrogen or halogen;

R<sub>5</sub> is hydrogen or a protecting group;

R<sub>6</sub> is hydrogen, hydroxyl, or protected hydroxyl;

n is 0-2;

R<sub>7</sub>, for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

R<sub>8</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or lower-alkyl,

optionally substituted with hydroxyl, protected hydroxyl, SR<sub>12</sub>, or NR<sub>12</sub>R<sub>13</sub>;

R<sub>9</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, OR<sub>12</sub>, SR<sub>12</sub>, NR<sub>12</sub>R<sub>13</sub>, -

X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>, or is lower-alkyl, optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, lower alkyl C<sub>1-6</sub>alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2$ - $R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is - (C=O)NHR<sub>15</sub> - (C=O)OR<sub>15</sub>, or - (C=O)R<sub>15</sub>, wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is -SO<sub>2</sub>( $R_{16}$ ), wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

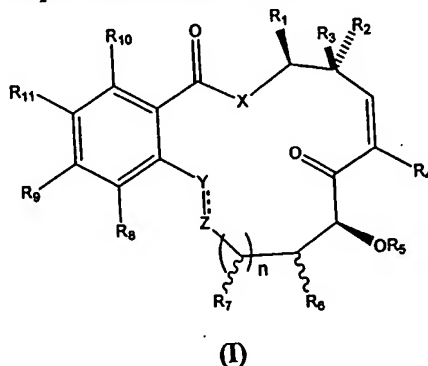
$X$  is absent or is O, NH, N-alkyl, CH<sub>2</sub> or S;

$Y$  is CHR<sub>17</sub>, O, C=O, CR<sub>17</sub> or NR<sub>17</sub>; and  $Z$  is CHR<sub>18</sub>, O, C=O, CR<sub>18</sub> or NR<sub>18</sub>, wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or lower alkyl C<sub>1-6</sub>alkyl, or  $R_{17}$  and  $R_{18}$  taken together is -O-, -CH<sub>2</sub>- or -NR<sub>19</sub>-, wherein  $R_{19}$  is hydrogen or lower alkyl C<sub>1-6</sub>alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; ~~pharmaceutically acceptable derivatives thereof;~~ and

a pharmaceutically acceptable carrier or diluent.

123. A method for preventing or reducing the rate of restenosis, comprising:

inserting a stent into an obstructed blood vessel, the stent having a generally tubular structure, the surface of the structure being coated with (or otherwise adapted to release) a composition comprising a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, straight or branched lower-alkyl C<sub>1-6</sub>alkyl, straight or branched lower-heteroalkyl C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched lower-alkyl C<sub>1-6</sub>alkyl, straight or branched lower-heteroalkyl C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

$R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

$R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen or a protecting group;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or lower-alkyl C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is ~~lower-alkyl~~  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, ~~lower-alkyl~~  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen, wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or  $-N(alkyl)$ , or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;


$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

$Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or ~~lower-alkyl~~  $C_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or ~~lower-alkyl~~  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; ~~pharmaceutically acceptable derivatives thereof~~; and optionally

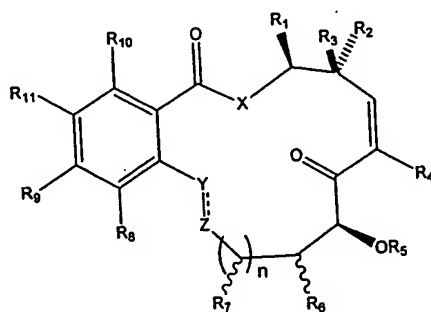
a pharmaceutically acceptable carrier or diluent;

such that the obstruction is eliminated and the composition is delivered in amounts effective to prevent or reduce the rate of restenosis;

with the proviso that the following groups do not occur simultaneously as defined: n is 1; X is O; R<sub>1</sub> is methyl; R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>11</sub> are each hydrogen; R<sub>5</sub> is hydrogen, C<sub>1-4</sub>alkyl or -C(=O)C<sub>1-4</sub>alkyl; R<sub>6</sub> is hydrogen, OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; R<sub>9</sub> and R<sub>10</sub> are independently OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; and Y-Z is -CHR<sup>Y</sup>CHR<sup>Z</sup>-, -

CH=CH- or ; wherein R<sup>Y</sup> and R<sup>Z</sup> are independently hydrogen, C<sub>1-4</sub>alkyl or C<sub>1-4</sub>alkanoyl.

124. A method for expanding the lumen of a body passageway, comprising:  
 inserting a stent into the passageway, the stent having a generally tubular structure,  
 the surface of the structure being coated with (or otherwise adapted to release) a composition  
 comprising a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein R<sub>1</sub> is hydrogen, straight or branched lower alkyl, C<sub>1-6</sub>alkyl, straight or branched lower heteroalkyl, C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

R<sub>2</sub> and R<sub>3</sub> are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched lower alkyl, C<sub>1-6</sub>alkyl, straight or branched lower heteroalkyl, C<sub>1-6</sub>heteroalkyl, or aryl,



wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or  $R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or  $R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;  $R_4$  is hydrogen or halogen;  $R_5$  is hydrogen or a protecting group;  $R_6$  is hydrogen, hydroxyl, or protected hydroxyl;  $n$  is 0-2;  $R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;  $R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or ~~lower-alkyl~~  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;  $R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ , -  $X_1(CH_2)_pX_2-R_{14}$ , or is ~~lower-alkyl~~  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or - $X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, ~~lower-alkyl~~  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen, wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is -  $(C=O)NHR_{15}$  -  $(C=O)OR_{15}$ , or -  $(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is -  $SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

R<sub>8</sub> and R<sub>9</sub> may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

R<sub>10</sub> is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

R<sub>11</sub> is hydrogen, hydroxyl or protected hydroxyl;

X is absent or is O, NH, N-alkyl, CH<sub>2</sub> or S;

Y is CHR<sub>17</sub>, O, C=O, CR<sub>17</sub> or NR<sub>17</sub>; and Z is CHR<sub>18</sub>, O, C=O, CR<sub>18</sub> or NR<sub>18</sub>, wherein each occurrence of R<sub>17</sub> and R<sub>18</sub> is independently hydrogen or ~~lower-alkyl~~ C<sub>1-6</sub>alkyl, or R<sub>17</sub> and R<sub>18</sub> taken together is -O-, -CH<sub>2</sub>- or -NR<sub>19</sub>-, wherein R<sub>19</sub> is hydrogen or ~~lower-alkyl~~ C<sub>1-6</sub>alkyl, and Y and Z may be connected by a single or double bond; ~~pharmaceutically acceptable derivatives thereof;~~ and optionally

a pharmaceutically acceptable carrier or diluent;

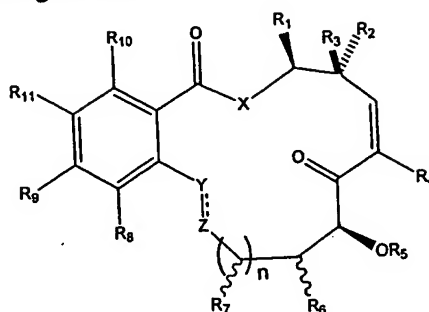
such that the passageway is expanded.

**SUBSTITUTE SHEETS**

# CLAIMS

We claim:

1. A compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein R<sub>1</sub> is hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl;

R<sub>2</sub> and R<sub>3</sub> are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or

R<sub>1</sub> and R<sub>2</sub>, when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms; or

R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms;

R<sub>4</sub> is hydrogen or halogen;

R<sub>5</sub> is hydrogen, an oxygen protecting group or a prodrug;

R<sub>6</sub> is hydrogen, hydroxyl, or protected hydroxyl;

n is 0-2;

R<sub>7</sub>, for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

R<sub>8</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or an aliphatic moiety optionally substituted with hydroxyl, protected hydroxyl, SR<sub>12</sub>, or NR<sub>12</sub>R<sub>13</sub>;

R<sub>9</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, OR<sub>12</sub>, SR<sub>12</sub>, NR<sub>12</sub>R<sub>13</sub>, -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>, or is C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2$ - $R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an aliphatic moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or  $R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic

ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;


$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

$Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ ,

wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or aliphatic, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond;

with the proviso that when  $n$  is 1;  $X$  is O;  $R_1$  is methyl;  $R_2$ ,  $R_3$ ,  $R_7$  and  $R_{11}$  are each hydrogen;  $R_5$  is hydrogen,  $C_{1-4}$ alkyl or  $-C(=O)C_{1-4}$ alkyl;  $R_6$  is hydrogen, OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and  $R_9$  is OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; then one or more if the following groups do not occur simultaneously as defined:

- (i)  $R_4$  is hydrogen;  $R_{10}$  and  $R_8$  are independently OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and Y-Z is  $-CH_2CH_2-$  or  $-CH=CH-$ ;

- (ii)  $R_4$  and  $R_8$  are each hydrogen;  $R_{10}$  is OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and Y-Z is  $-CHR^YCHR^Z-$ ,  $-CH=CH-$  or ; wherein

$R^Y$  and  $R^Z$  are independently hydrogen,  $C_{1-4}$ alkyl or  $C_{1-4}$ alkanoyl; and

- (iii)  $R_4$  and  $R_{10}$  are each hydrogen, OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl;  $R_8$  is hydrogen, OH, halogen,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl; and Y-Z is  $-CH_2CH_2-$ ,  $-CH=CH-$  or  $-C(=O)CH_2-$ .

2. The compound of claim 1, where the following groups do not occur simultaneously as defined:

X is oxygen,

$R_1$  is methyl,

$R_2$  and  $R_3$  are each hydrogen,

$R_4$  is hydrogen,

$R_5$  is hydrogen,  $C_{1-6}$ alkyl or  $C_{1-6}$ alkanoyl,

$R_6$  is  $OR'$ , where  $R'$  is hydrogen,  $C_{1-6}$ alkyl or  $C_{1-6}$ alkanoyl with S-

configuration,

$R_7$  is hydrogen,

Y and Z together represent  $-CHR_{17}-CHR_{18}-$  or  $-CR_{17}=CR_{18}-$ , wherein

$R_{17}$  and  $R_{18}$  are independently hydrogen, or when Y and Z are  $-CHR_{17}-$

$CHR_{18}$ ,  $R_{17}$  and  $R_{18}$  taken together are  $-O-$ ;

$R_8$  is hydrogen or  $OR'$ , where  $R'$  is hydrogen,  $C_{1-6}$ alkyl or  $C_{1-6}$ alkanoyl,

$R_9$  is  $OR'$ , where  $R'$  is hydrogen,  $C_{1-6}$ alkyl or  $C_{1-6}$ alkanoyl,

$R_{10}$  is  $OR''$ , where  $R''$  is hydrogen,  $C_{1-6}$ alkyl or  $C_{1-6}$ alkanoyl; and

$R_{11}$  is hydrogen.

3. The compound of claim 1, wherein:

$R_1$  is hydrogen, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

$R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

$R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen or a protecting group;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen,  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2$ - $R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$   $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

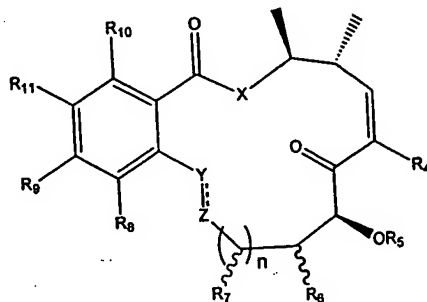
$Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ ,

wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or  $C_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond.

4. The compound of claim 3, where  $X$  is oxygen and  $n$  is 1.
5. The compound of claim 3, where  $R_4$  is halogen.
6. The compound of claim 3, where  $R_4$  is fluorine.
7. The compound of claim 3, where  $Y$  and  $Z$  together represent  $-CH=CH-$ .
8. The compound of claim 3, where  $Y$  and  $Z$  together represent trans  $-CH=CH-$ .



9. The compound of claim 3, wherein  $R_1$  and  $R_2$  are each methyl and  $R_3$  is hydrogen and the compound has the structure:



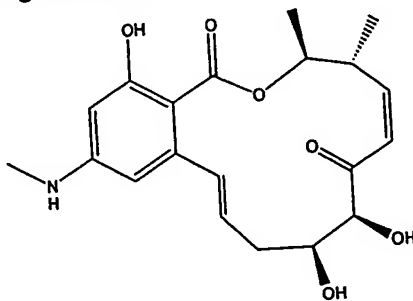
wherein  $R_4$ - $R_{11}$ ,  $n$ ,  $X$ ,  $Y$  and  $Z$  are as defined in claim 3.

10. The compound of claim 9, wherein  $X$  is oxygen and  $n$  is 1.
11. The compound of claim 9, wherein  $R_4$  is halogen.

20. The compound of claim 15, wherein X is oxygen, n is 1, R<sub>1</sub> and R<sub>2</sub> are each methyl, R<sub>3</sub> is hydrogen, R<sub>4</sub> is halogen, and Y and Z together represent -CH=CH-.

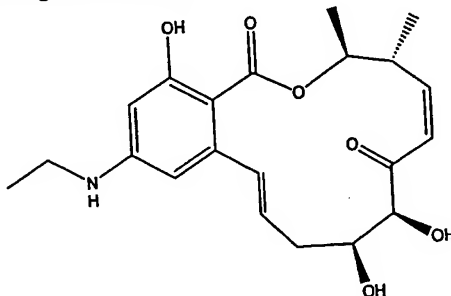
21. The compound of claim 18 or 20, wherein -CH=CH- is trans.

22. A compound having the structure:



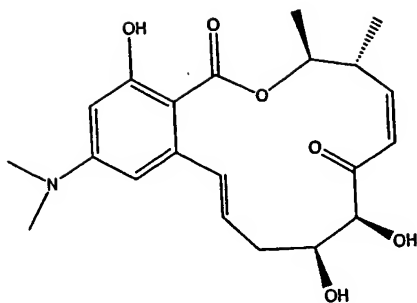
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

23. A compound having the structure:



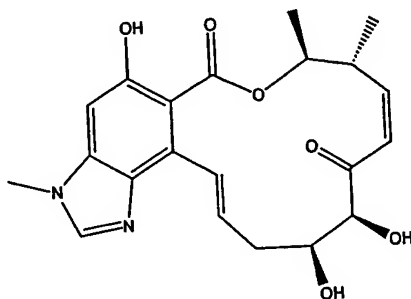
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

24. A compound having the structure:



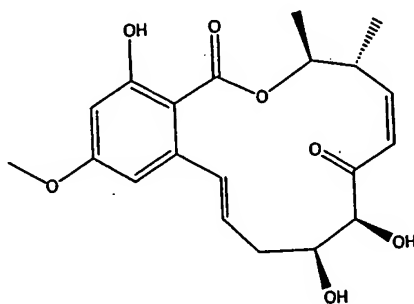
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

25. A compound having the structure:



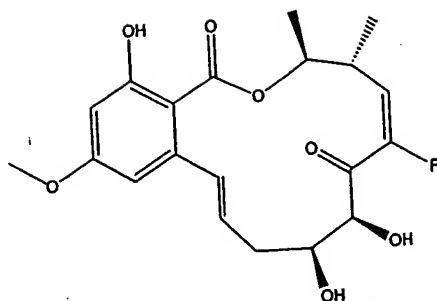
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

26. A compound having the structure:



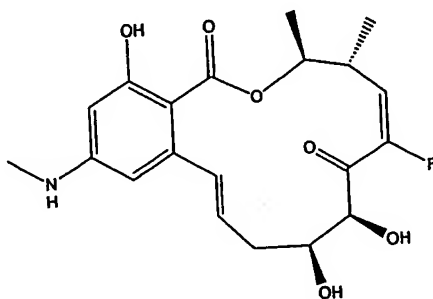
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

27. A compound having the structure:



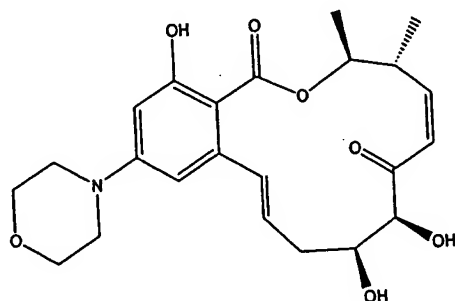
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

28. A compound having the structure:



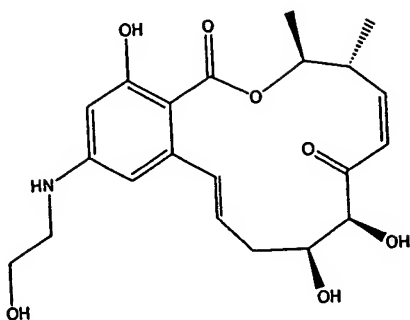
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

29. A compound having the structure:



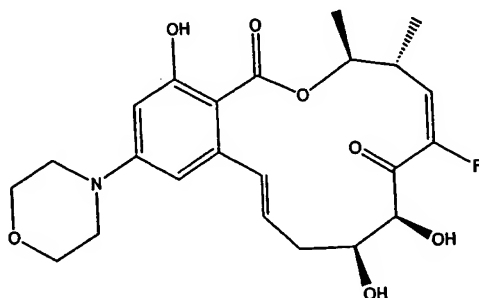
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

30. A compound having the structure:



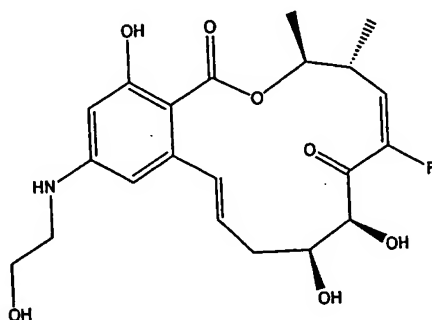
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

31. A compound having the structure:



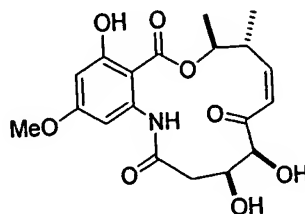
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

32. A compound having the structure:



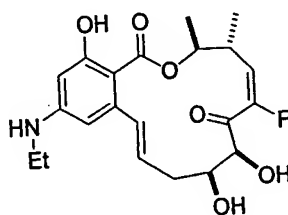
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

33. A compound having the structure:



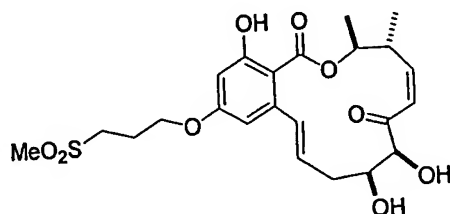
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

34. A compound having the structure:



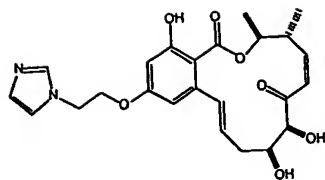
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

35. A compound having the structure:



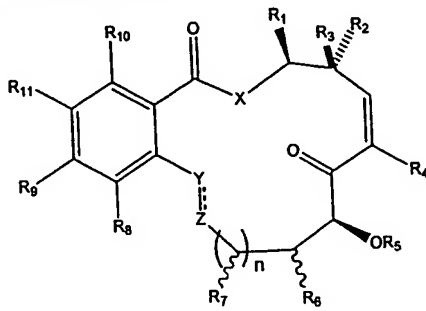
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

36. A compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof.

37. A pharmaceutical composition comprising:  
a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or

$R_1$  and  $R_2$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms; or

$R_1$  and  $R_3$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen, an oxygen protecting group or a prodrug;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or an aliphatic moiety optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or  $-N(alkyl)$ , or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an aliphatic moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

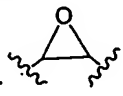
$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;



Y is  $\text{CHR}_{17}$ , O,  $\text{C}=\text{O}$ ,  $\text{CR}_{17}$  or  $\text{NR}_{17}$ ; and Z is  $\text{CHR}_{18}$ , O,  $\text{C}=\text{O}$ ,  $\text{CR}_{18}$  or  $\text{NR}_{18}$ , wherein each occurrence of  $\text{R}_{17}$  and  $\text{R}_{18}$  is independently hydrogen or aliphatic, or  $\text{R}_{17}$  and  $\text{R}_{18}$  taken together is  $-\text{O}-$ ,  $-\text{CH}_2-$  or  $-\text{NR}_{19}-$ , wherein  $\text{R}_{19}$  is hydrogen or  $\text{C}_{1-6}$ alkyl, and Y and Z may be connected by a single or double bond; and

a pharmaceutically acceptable carrier;

with the proviso that when n is 1; X is O;  $\text{R}_1$  is methyl;  $\text{R}_2$ ,  $\text{R}_3$ ,  $\text{R}_7$  and  $\text{R}_{11}$  are each hydrogen;  $\text{R}_5$  is hydrogen,  $\text{C}_{1-4}$ alkyl or  $-\text{C}(=\text{O})\text{C}_{1-4}$ alkyl;  $\text{R}_6$  is hydrogen, OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and  $\text{R}_9$  is OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; then one or more if the following groups do not occur simultaneously as defined:

- (i)  $\text{R}_4$  is hydrogen;  $\text{R}_{10}$  and  $\text{R}_8$  are independently OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and Y-Z is  $-\text{CH}_2\text{CH}_2-$  or  $-\text{CH}=\text{CH}-$ ;
- (ii)  $\text{R}_4$  and  $\text{R}_8$  are each hydrogen;  $\text{R}_{10}$  is OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and Y-Z is  $-\text{CHR}^Y\text{CHR}^Z-$ ,  $-\text{CH}=\text{CH}-$  or ; wherein

- $\text{R}^Y$  and  $\text{R}^Z$  are independently hydrogen,  $\text{C}_{1-4}$ alkyl or  $\text{C}_{1-4}$ alkanoyl; and
- (iii)  $\text{R}_4$  and  $\text{R}_{10}$  are each hydrogen, OH,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl;  $\text{R}_8$  is hydrogen, OH, halogen,  $\text{C}_{1-4}$ alkoxy or  $-\text{OC}(=\text{O})\text{C}_{1-4}$ alkyl; and Y-Z is  $-\text{CH}_2\text{CH}_2-$ ,  $-\text{CH}=\text{CH}-$  or  $-\text{C}(=\text{O})\text{CH}_2-$ .

38. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to inhibit NF- $\kappa$ B activation.

39. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to inhibit AP-1 activation.

40. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to inhibit a protein kinase.

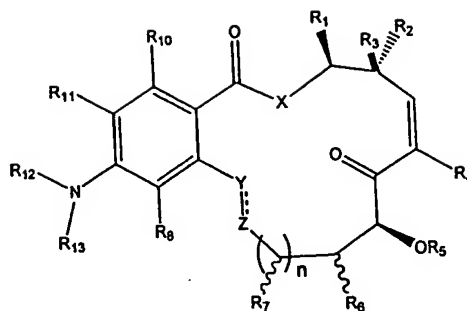
41. The pharmaceutical composition of claim 39, wherein the protein kinase is MEKK1, MEK1, VEGFr or PDGFr.

42. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to inhibit proliferation of cancerous cells and angiogenesis on solid tumors.
43. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to have an anti-inflammatory effect.
44. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to treat psoriasis.
45. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to reduce skin photodamage.
46. The pharmaceutical composition of claim 37, wherein the compound is present in an amount effective to prevent restenosis.
47. The pharmaceutical composition of claim 37, where:  
R<sub>1</sub> is hydrogen, straight or branched C<sub>1-6</sub>alkyl, straight or branched C<sub>1-6</sub>heteroalkyl, or aryl,  
wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;  
R<sub>2</sub> and R<sub>3</sub> are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched C<sub>1-6</sub>alkyl, straight or branched C<sub>1-6</sub>heteroalkyl, or aryl,  
wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or  
R<sub>1</sub> and R<sub>2</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or  
R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;  
 $R_5$  is hydrogen or a protecting group;  
 $R_6$  is hydrogen, hydroxyl, or protected hydroxyl;  
 $n$  is 0-2;  
 $R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;  
 $R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;  
 $R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;  
 wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen,  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,  
 wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,  
 $p$  is 2-10, and  
 $R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or  
 $R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;  
 $R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;  
 $X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;  
 $Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or  $C_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond.

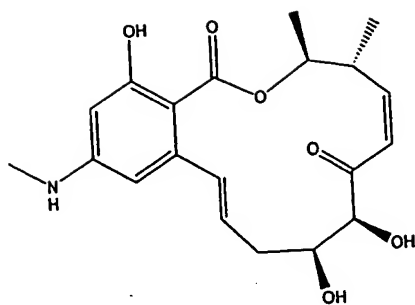
48. The pharmaceutical composition of claim 47, where  $X$  is oxygen and  $n$  is 1.
49. The pharmaceutical composition of claim 47, where  $R_4$  is halogen.
50. The pharmaceutical composition of claim 49, where  $R_4$  is fluorine.
51. The pharmaceutical composition of claim 47, where  $Y$  and  $Z$  together represent  $-CH=CH-$ .
52. The pharmaceutical composition of claim 51, wherein  $-CH=CH-$  is trans.



wherein  $R_1$ - $R_{13}$ ,  $n$ ,  $X$ ,  $Y$  and  $Z$  are as defined in claim 46, or

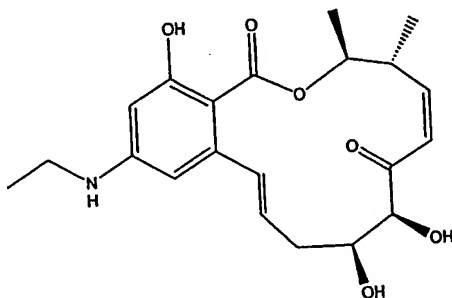
$R_{13}$  and  $R_8$  may, when taken together, form a cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydrogen, alkyloxy, amino, alkylamino, aminoalkyl, and halogen.

60. The pharmaceutical composition of claim 59, wherein  $X$  is oxygen and  $n$  is 1.
61. The pharmaceutical composition of claim 59, wherein  $R_4$  is halogen.
62. The pharmaceutical composition of claim 59, wherein  $Y$  and  $Z$  together represent  $-\text{CH}=\text{CH}-$ .
63. The pharmaceutical composition of claim 59, wherein  $R_1$  and  $R_2$  are each methyl and  $R_3$  is hydrogen.
64. The pharmaceutical composition of claim 59 wherein  $X$  is oxygen,  $n$  is 1,  $R_1$  and  $R_2$  are each methyl,  $R_3$  is hydrogen,  $R_4$  is halogen, and  $Y$  and  $Z$  together represent  $-\text{CH}=\text{CH}-$ .
65. The pharmaceutical composition of claim 63 or 64 wherein  $-\text{CH}=\text{CH}-$  is trans.
66. A pharmaceutical composition comprising:  
a compound having the structure:



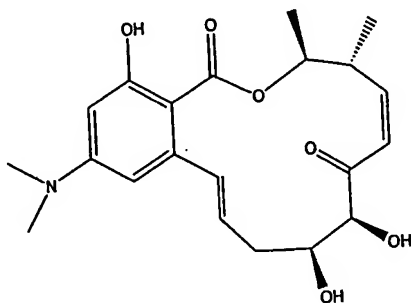
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

67. A pharmaceutical composition comprising:  
a compound having the structure:



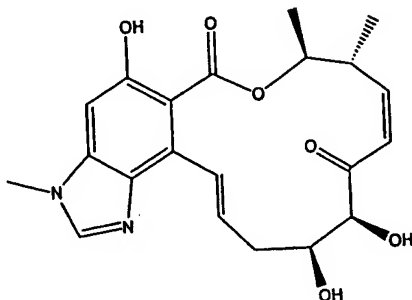
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

68. A pharmaceutical composition comprising:  
a compound having the structure:



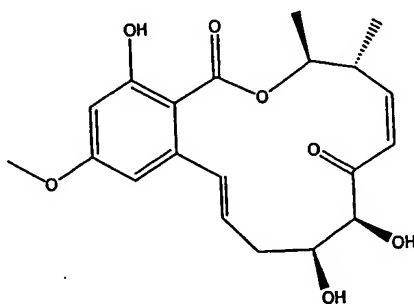
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

69. A pharmaceutical composition comprising:  
a compound having the structure:



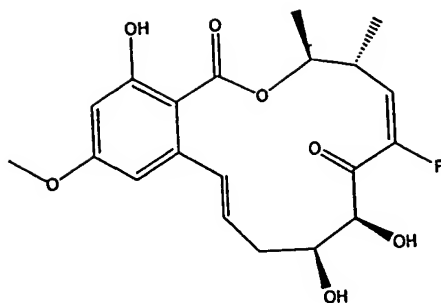
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

70. A pharmaceutical composition comprising:  
a compound having the structure:



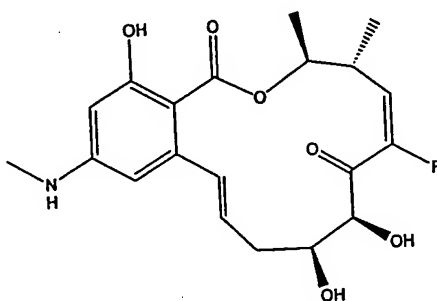
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

71. A pharmaceutical composition comprising:  
a compound having the structure:



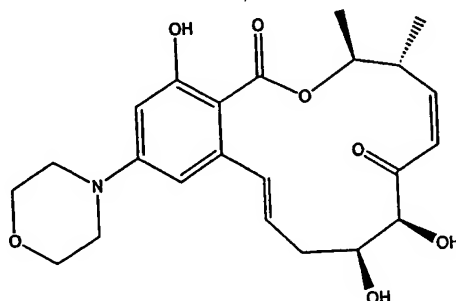
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

72. A pharmaceutical composition comprising:  
a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

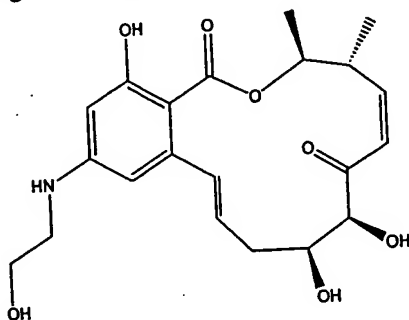
73. A pharmaceutical composition comprising:  
a compound having the structure:





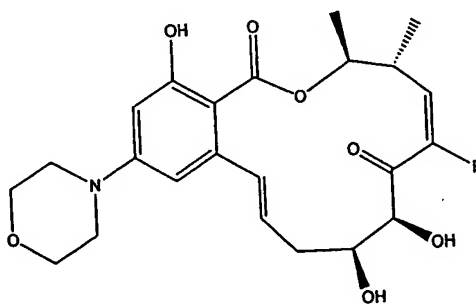
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

74. A pharmaceutical composition comprising:  
a compound having the structure:



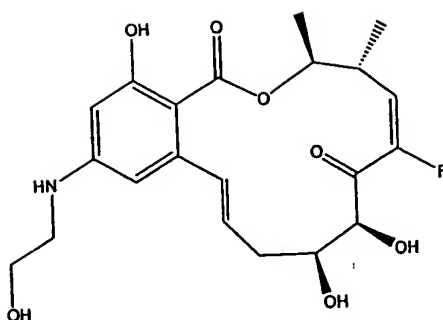
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

75. A pharmaceutical composition comprising:  
a compound having the structure:



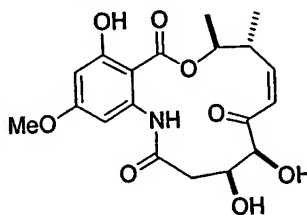
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

76. A pharmaceutical composition comprising:  
a compound having the structure:



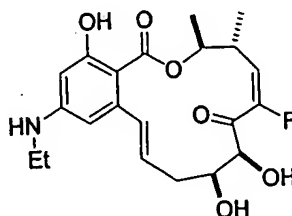
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

77. A pharmaceutical composition comprising:  
a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

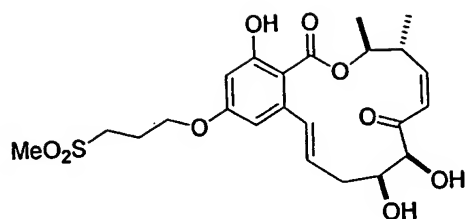
78. A pharmaceutical composition comprising:  
a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

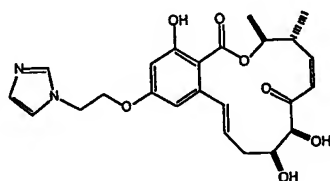
79. A pharmaceutical composition comprising:

a compound having the structure:



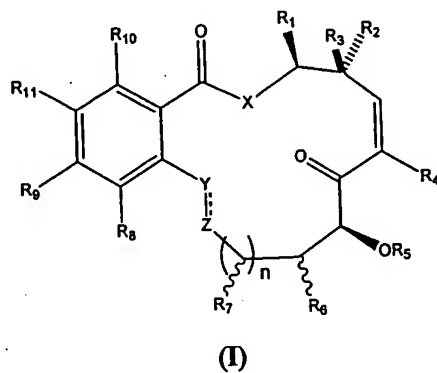
or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

80. A pharmaceutical composition comprising:  
a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof; and  
a pharmaceutically acceptable carrier.

81. A topical pharmaceutical composition for preventing or treating UVB-induced  
photodamage comprising:  
a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof;  
wherein  $R_1$  is hydrogen, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

$R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

$R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen or a protecting group;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen,  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences

of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2$ - $R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

$Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or  $C_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; and

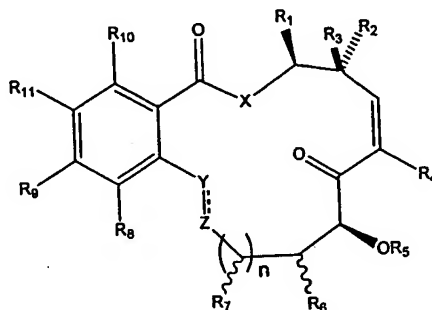
a pharmaceutically acceptable carrier;

wherein the compound is present in an amount effective to prevent or treat UVB-induced photodamage.

82. The pharmaceutical composition of claim 81, further comprising a cosmetic ingredient.

83. The pharmaceutical composition of claim 82, wherein the cosmetic ingredient is a sunscreen.

84. A method for treating an inflammatory and/or autoimmune disorder or a disorder resulting from increased angiogenesis and/or cell proliferation comprising:  
 administering to a subject in need thereof a therapeutically effective amount of  
 a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, or an aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl moiety; or

$R_1$  and  $R_2$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms; or

$R_1$  and  $R_3$ , when taken together, may form a substituted or unsubstituted, saturated or unsaturated cyclic ring of 3 to 8 carbon atoms;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen, an oxygen protecting group or a prodrug;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or an aliphatic moiety optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, aliphatic, heteroaliphatic, alicyclic, heteroalicyclic, aryl or heteroaryl; or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an aliphatic moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or  $R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

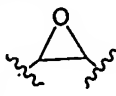
$Y$  is  $CHR_{17}$ , O, C=O,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O, C=O,  $CR_{18}$  or  $NR_{18}$ ,

wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or aliphatic, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; and

a pharmaceutically acceptable carrier or diluent;

with the proviso that when n is 1; X is O; R<sub>1</sub> is methyl; R<sub>2</sub>, R<sub>3</sub>, R<sub>7</sub> and R<sub>11</sub> are each hydrogen; R<sub>5</sub> is hydrogen, C<sub>1-4</sub>alkyl or -C(=O)C<sub>1-4</sub>alkyl; R<sub>6</sub> is hydrogen, OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; and R<sub>9</sub> is OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; then one or more if the following groups do not occur simultaneously as defined:

- (i) R<sub>4</sub> is hydrogen; R<sub>10</sub> and R<sub>8</sub> are independently OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; and Y-Z is -CH<sub>2</sub>CH<sub>2</sub>- or -CH=CH-; and
- (ii) R<sub>4</sub> and R<sub>8</sub> are each hydrogen; R<sub>10</sub> is OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-</sub>

<sub>4</sub>alkyl; and Y-Z is -CHR<sup>Y</sup>CHR<sup>Z</sup>-, -CH=CH- or ; wherein R<sup>Y</sup> and R<sup>Z</sup> are independently hydrogen, C<sub>1-4</sub>alkyl or C<sub>1-4</sub>alkanoyl; and

- (iii) R<sub>4</sub> and R<sub>10</sub> are each hydrogen, OH, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; R<sub>8</sub> is hydrogen, OH, halogen, C<sub>1-4</sub>alkoxy or -OC(=O)C<sub>1-4</sub>alkyl; and Y-Z is -CH<sub>2</sub>CH<sub>2</sub>-, -CH=CH- or -C(=O)CH<sub>2</sub>-; whereby the compound induces mRNA degradation and the method is for treating a disorder resulting from cell proliferation.

85. The method of claim 84, wherein the method is for treating a disorder selected from the group consisting of rheumatoid arthritis, psoriasis, asthma, cancer, sepsis, inflammatory bowel disease, atopic dermatitis, Crohn's disease, and autoimmune disorders.

86. The method of claim 84, wherein the method is for treating rheumatoid arthritis.

87. The method of claim 84, wherein the method is for treating psoriasis.

88. The method of claim 84, wherein the method is for treating asthma.

89. The method of claim 84, wherein:

R<sub>1</sub> is hydrogen, straight or branched C<sub>1-6</sub>alkyl, straight or branched C<sub>1-6</sub>heteroalkyl, or aryl,



wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

R<sub>2</sub> and R<sub>3</sub> are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched C<sub>1-6</sub>alkyl, straight or branched C<sub>1-6</sub>heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

R<sub>1</sub> and R<sub>2</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

R<sub>4</sub> is hydrogen or halogen;

R<sub>5</sub> is hydrogen or a protecting group;

R<sub>6</sub> is hydrogen, hydroxyl, or protected hydroxyl;

n is 0-2;

R<sub>7</sub>, for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

R<sub>8</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, SR<sub>12</sub>, or NR<sub>12</sub>R<sub>13</sub>;

R<sub>9</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, OR<sub>12</sub>, SR<sub>12</sub>, NR<sub>12</sub>R<sub>13</sub>, -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>, or is C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>;

wherein R<sub>12</sub> and R<sub>13</sub> are, independently for each occurrence, hydrogen, C<sub>1-6</sub>alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or R<sub>12</sub> and R<sub>13</sub>, taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of R<sub>12</sub> and R<sub>13</sub> are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein  $X_2$ - $R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

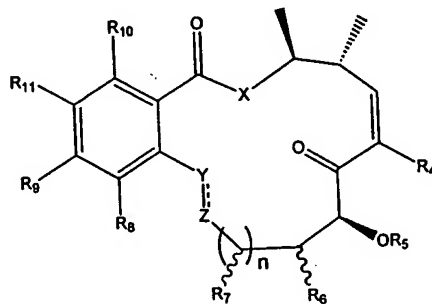
$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

$Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or  $C_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond.

90. The method of claim 89, wherein in the compound  $X$  is oxygen and  $n$  is 1.
91. The method of claim 89, wherein in the compound  $R_4$  is halogen.
92. The method of claim 89 is wherein in the compound  $R_4$  is fluorine.
93. The method of claim 89, wherein in the compound  $Y$  and  $Z$  together represent  $CH=CH-$

94. The method of claim 93, wherein in the compound Y and Z together represent  $\text{trans-CH=CH-}$ .

95. The method of claim 89, comprising administering a compound wherein  $R_1$  and  $R_2$  are each methyl and  $R_3$  is hydrogen and the compound has the structure:



wherein  $R_4$ - $R_{11}$ ,  $n$ ,  $X$ ,  $Y$  and  $Z$  are as defined in claim 88.

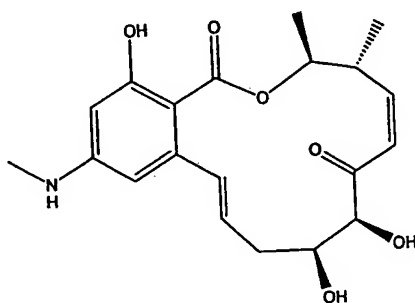
96. The method of claim 95, wherein in the compound  $X$  is oxygen and  $n$  is 1.

97. The method of claim 95, wherein in the compound  $R_4$  is halogen.

106. The method of claim 101, wherein in the compound X is oxygen, n is 1, R<sub>1</sub> and R<sub>2</sub> are each methyl, R<sub>3</sub> is hydrogen, R<sub>4</sub> is halogen, and Y and Z together represent -CH=CH-.

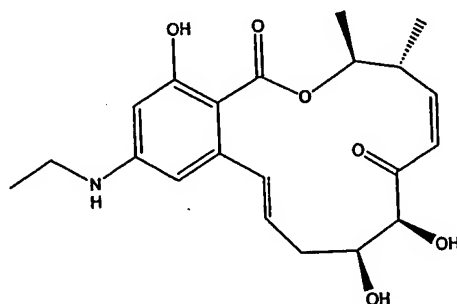
107. The method of claim 105 or 106, wherein in the compound -CH=CH- is trans.

108. The method of claim 84, comprising administering a compound having the structure:



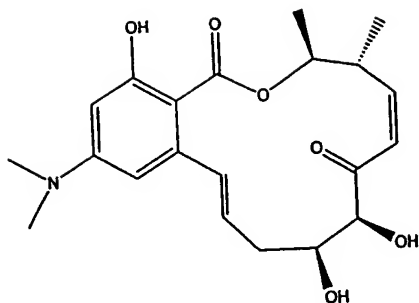
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

109. The method of claim 84, comprising administering a compound having the structure:



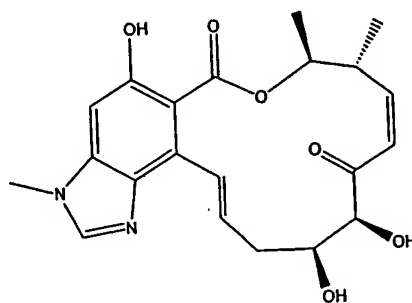
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

110. The method of claim 84, comprising administering a compound having the structure:



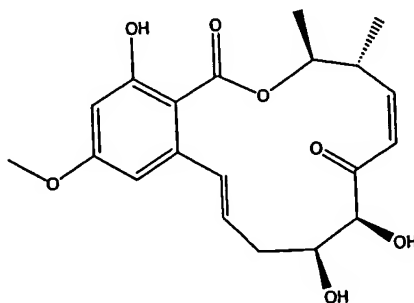
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

111. The method of claim 84, comprising administering a compound having the structure:



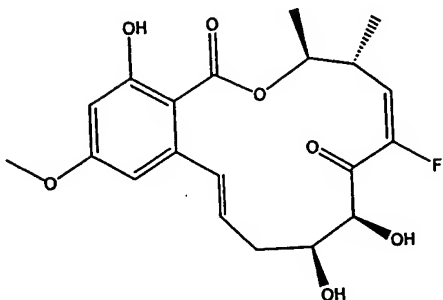
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

112. The method of claim 84, comprising administering a compound having the structure:



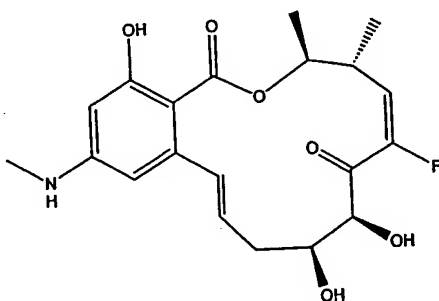
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

113. The method of claim 84, comprising administering a compound having the structure:



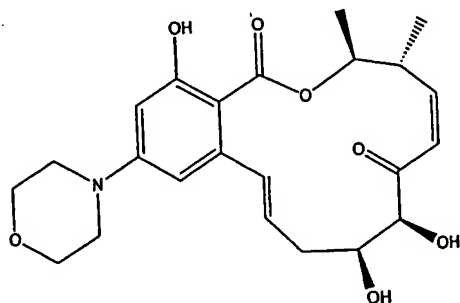
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

114. The method of claim 84, comprising administering a compound having the structure:



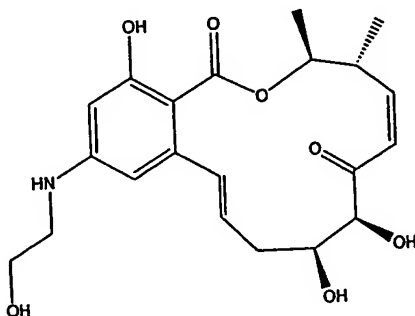
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

115. The method of claim 84, comprising administering a compound having the structure:



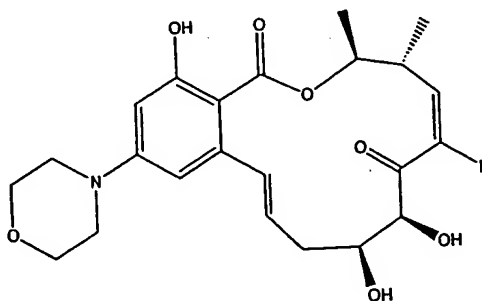
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

116. The method of claim 84, comprising administering a compound having the structure:



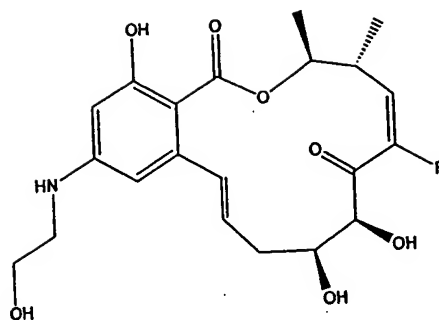
or pharmaceutically acceptable salt, ester, or salt of ester thereof.

117. The method of claim 84, comprising administering a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof.

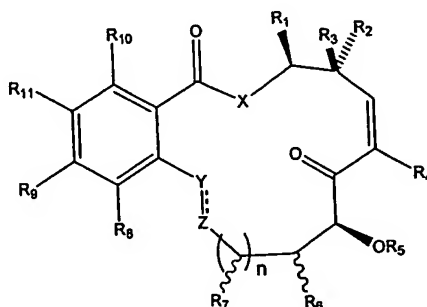
118. The method of claim 84, comprising administering a compound having the structure:



or pharmaceutically acceptable salt, ester, or salt of ester thereof.

119. A method for providing protection against UVB-induced photodamage to a subject, said method comprising:

Administering to the subject in need thereof a composition comprising a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,



wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

R<sub>1</sub> and R<sub>2</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

R<sub>1</sub> and R<sub>3</sub>, when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

R<sub>4</sub> is hydrogen or halogen;

R<sub>5</sub> is hydrogen or a protecting group;

R<sub>6</sub> is hydrogen, hydroxyl, or protected hydroxyl;

n is 0-2;

R<sub>7</sub>, for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

R<sub>8</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, SR<sub>12</sub>, or NR<sub>12</sub>R<sub>13</sub>;

R<sub>9</sub> is hydrogen, halogen, hydroxyl, protected hydroxyl, OR<sub>12</sub>, SR<sub>12</sub>, NR<sub>12</sub>R<sub>13</sub>, -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>, or is C<sub>1-6</sub>alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or -X<sub>1</sub>(CH<sub>2</sub>)<sub>p</sub>X<sub>2</sub>-R<sub>14</sub>;

wherein R<sub>12</sub> and R<sub>13</sub> are, independently for each occurrence, hydrogen, C<sub>1-6</sub>alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or R<sub>12</sub> and R<sub>13</sub>, taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of R<sub>12</sub> and R<sub>13</sub> are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein X<sub>1</sub> and X<sub>2</sub> are each independently absent, or are oxygen, NH, or -N(alkyl), or wherein X<sub>2</sub>-R<sub>14</sub> together are N<sub>3</sub> or are a saturated or unsaturated heterocyclic moiety,

p is 2-10, and

R<sub>14</sub> is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is -(C=O)NHR<sub>15</sub>-(C=O)OR<sub>15</sub>, or -(C=O)R<sub>15</sub>, wherein each

occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or  $R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

$Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or  $C_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; and

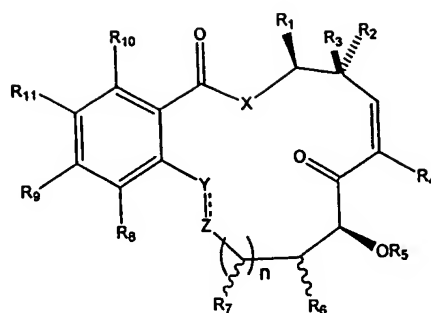
a pharmaceutically acceptable carrier or diluent.

120. The method of claim 119, wherein in the step of administering, the composition is administered topically.

121. The method of claim 119, wherein the photodamage is skin wrinkles.

122. The method of claim 119, wherein the photodamage is a skin cancer.

123. A method for preventing or reducing the rate of restenosis, comprising:  
 inserting a stent into an obstructed blood vessel, the stent having a generally tubular structure, the surface of the structure being coated with (or otherwise adapted to release) a composition comprising a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;

wherein  $R_1$  is hydrogen, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;

$R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

$R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

$R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen or a protecting group;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen,  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen, NH, or  $-N(alkyl)$ , or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-SO_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or

$R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl,  $CH_2$  or S;

$Y$  is  $CHR_{17}$ , O,  $C=O$ ,  $CR_{17}$  or  $NR_{17}$ ; and  $Z$  is  $CHR_{18}$ , O,  $C=O$ ,  $CR_{18}$  or  $NR_{18}$ ,


wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or  $C_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-O-$ ,  $-CH_2-$  or  $-NR_{19}-$ , wherein  $R_{19}$  is hydrogen or  $C_{1-6}$ alkyl,

and  $Y$  and  $Z$  may be connected by a single or double bond; and optionally

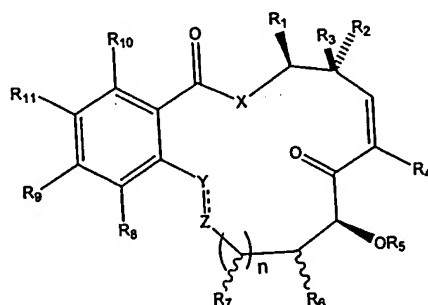
a pharmaceutically acceptable carrier or diluent;

such that the obstruction is eliminated and the composition is delivered in amounts effective to prevent or reduce the rate of restenosis;

with the proviso that the following groups do not occur simultaneously as defined:  $n$  is 1;  $X$  is O;  $R_1$  is methyl;  $R_2, R_3, R_4, R_7, R_8$  and  $R_{11}$  are each hydrogen;  $R_5$  is hydrogen,  $C_{1-4}$ alkyl or  $-C(=O)C_{1-4}$ alkyl;  $R_6$  is hydrogen, OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl;  $R_9$  and  $R_{10}$  are independently OH,  $C_{1-4}$ alkoxy or  $-OC(=O)C_{1-4}$ alkyl;

and  $Y-Z$  is  $-CHR^YCHR^Z-$ ,  $-\text{CH}=\text{CH}-$  or ; wherein  $R^Y$  and  $R^Z$  are independently hydrogen,  $C_{1-4}$ alkyl or  $C_{1-4}$ alkanoyl.

124. A method for expanding the lumen of a body passageway, comprising:  
 inserting a stent into the passageway, the stent having a generally tubular structure, the surface of the structure being coated with (or otherwise adapted to release) a composition comprising a compound having the structure:



(I)

or pharmaceutically acceptable salt, ester, or salt of ester thereof;  
 wherein  $R_1$  is hydrogen, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,  
 wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl;  
 $R_2$  and  $R_3$  are each independently hydrogen, halogen, hydroxyl, protected hydroxyl, straight or branched  $C_{1-6}$ alkyl, straight or branched  $C_{1-6}$ heteroalkyl, or aryl,

wherein the alkyl, heteroalkyl, and aryl groups may optionally be substituted with one or more occurrences of halogen, hydroxyl or protected hydroxyl; or

$R_1$  and  $R_2$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen; or

$R_1$  and  $R_3$ , when taken together, may form a saturated or unsaturated cyclic ring of 3 to 8 carbon atoms, optionally substituted with one or more occurrences of halogen;

$R_4$  is hydrogen or halogen;

$R_5$  is hydrogen or a protecting group;

$R_6$  is hydrogen, hydroxyl, or protected hydroxyl;

$n$  is 0-2;

$R_7$ , for each occurrence, is independently hydrogen, hydroxyl, or protected hydroxyl;

$R_8$  is hydrogen, halogen, hydroxyl, protected hydroxyl, alkyloxy, or  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl,  $SR_{12}$ , or  $NR_{12}R_{13}$ ;

$R_9$  is hydrogen, halogen, hydroxyl, protected hydroxyl,  $OR_{12}$ ,  $SR_{12}$ ,  $NR_{12}R_{13}$ ,  $-X_1(CH_2)_pX_2-R_{14}$ , or is  $C_{1-6}$ alkyl optionally substituted with hydroxyl, protected hydroxyl, halogen, amino, protected amino, or  $-X_1(CH_2)_pX_2-R_{14}$ ;

wherein  $R_{12}$  and  $R_{13}$  are, independently for each occurrence, hydrogen,  $C_{1-6}$ alkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or a protecting group, or  $R_{12}$  and  $R_{13}$ , taken together may form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms, and each of  $R_{12}$  and  $R_{13}$  are optionally further substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen,

wherein  $X_1$  and  $X_2$  are each independently absent, or are oxygen,  $NH$ , or  $-N(alkyl)$ , or wherein  $X_2-R_{14}$  together are  $N_3$  or are a saturated or unsaturated heterocyclic moiety,

$p$  is 2-10, and

$R_{14}$  is hydrogen, or an aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or is  $-(C=O)NHR_{15}$ ,  $-(C=O)OR_{15}$ , or  $-(C=O)R_{15}$ , wherein each

occurrence of  $R_{15}$  is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl, or alkylheteroaryl, or  $R_{14}$  is  $-\text{SO}_2(R_{16})$ , wherein  $R_{16}$  is an alkyl moiety, wherein one or more of  $R_{14}$ ,  $R_{15}$ , or  $R_{16}$  are optionally substituted with one or more occurrences of hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen; or  $R_8$  and  $R_9$  may, when taken together, form a saturated or unsaturated cyclic ring containing 1 to 4 carbon atoms and 1 to 3 nitrogen or oxygen atoms and is optionally substituted with hydroxyl, protected hydroxyl, alkyloxy, amino, protected amino, alkylamino, aminoalkyl, or halogen;

$R_{10}$  is hydrogen, hydroxyl, protected hydroxyl, amino, or protected amino;

$R_{11}$  is hydrogen, hydroxyl or protected hydroxyl;

$X$  is absent or is O, NH, N-alkyl,  $\text{CH}_2$  or S;

$Y$  is  $\text{CHR}_{17}$ , O,  $\text{C}=\text{O}$ ,  $\text{CR}_{17}$  or  $\text{NR}_{17}$ ; and  $Z$  is  $\text{CHR}_{18}$ , O,  $\text{C}=\text{O}$ ,  $\text{CR}_{18}$  or  $\text{NR}_{18}$ , wherein each occurrence of  $R_{17}$  and  $R_{18}$  is independently hydrogen or  $\text{C}_{1-6}$ alkyl, or  $R_{17}$  and  $R_{18}$  taken together is  $-\text{O}-$ ,  $-\text{CH}_2-$  or  $-\text{NR}_{19}-$ , wherein  $R_{19}$  is hydrogen or  $\text{C}_{1-6}$ alkyl, and  $Y$  and  $Z$  may be connected by a single or double bond; and optionally a pharmaceutically acceptable carrier or diluent; such that the passageway is expanded.

125. The method of claim 124, wherein the lumen of a body passageway is expanded in order to eliminate a biliary, gastrointestinal, esophageal, tracheal/bronchial, urethral and/or vascular obstruction.

126. The method of claim 125, wherein the lumen of a body passageway is expanded in order to eliminate a vascular obstruction.